CIVIL AVIATION AUTHORITY, BANGLADESH

AIR NAVIGATION ORDER

FLIGHT OPERATIONS REQUIREMENTS

PART – B: GENERAL OPERATIONS PROCEDURES

ANO (OPS) B-4: STANDARD OPERATING PROCEDURES

SECTIONS

1.0 General

1.1 Pursuant to Rule 4 of CAR'84, Chairman Civil Aviation Authority is pleased to issue this ANO regarding the establishment of Standard Operating Procedures for Commercial Air Transport Operators of Bangladesh.

1.2 This ANO is developed in conjunction with Rule 119, 124(3) of CAR'84 to comply with the standard of the International Civil Aviation Organization (ICAO) as mentioned in Annex 6 part 1 Chapter 4 Para 4.2.2.1 and the associated Appendix 2 Para 2.1.17 wherein it is mentioned, "An operator shall provide, for the use and guidance of operations personnel concerned an Operations Manual that shall contain Standard Operating Procedures (SOP) for each phase of flight" (Also depicted in Rule 140 of CAR' 84)

2.0 Purpose

2.1 Standard Operating procedures (SOPs) are universally recognized as basic to safe aviation operations. In order to accomplish safe flying two major aspects stand as a gateway to safety. They are, 'effective crew coordination' and 'crew performance'. Both should be accomplished in a manner so as to establish a sound Crew Resource Management (CRM), a phenomena that depends upon the crews' having a shared mental model for each task. That mental model, in turn, is based on SOPs. This ANO presents basic concepts and requirements in respect to SOPs to be incorporated and practiced by the crews of all commercial operators of Bangladesh.

3. Key Features of SOP

For the effectiveness of the SOP, its key features should be written in such a way so that:

(a) The procedure is appropriate to the situation;

(b) The procedure is practical to use;

(c) Crew members understand the reasons for the procedure;

(d) Pilot Flying (PF), Pilot Not Flying (PNF), and Flight Engineer duties are clearly delineated;

(e) Effective training is conducted keeping in mind that flight crews do not end up doing things to satisfy training requirements and check rides only but also to follow the same procedure during line operations;

(f) Standardization of procedure so as to make the SOP adoptable to all flight crewmembers including instructors, check pilots and flight operations executives;

(g) The attitudes shown by instructors, check pilots and associated personnel reinforce the need for the procedure;

(h) SOPs shall be reviewed and changed from time to time incorporating the need for such changes for greater interest of flight safety.

4. Construction of SOP

4.1 In general, SOPs are the product of healthy co-ordination among instructors, check pilots, flight operations personnel and line flight crews. Continuous feedback from flight crews and associated personnel together with continuous revision contribute largely towards the construction of an effective SOP.

4.2 The developers shall pay close attention to the approved Flight Crew Operating Manual (FCOM), its revisions and Operations Bulletins issued by the manufacturer. Representatives of the airplane manufacturer, pilots having previous experience with the airplane or with the kind of operations planned by the operator and members of the Management Team shall coordinate among themselves in order to construct the relevant SOP. It is especially important for a new operator to maintain a periodic review process that includes line flight crews to ascertain the effectiveness and credibility of the SOP for safe operation of flights. Management personnel and flight crews shall review the effectiveness of SOPs and formulated appropriate revisions as and when necessary. The Management personnel shall then ensure prompt implementation of revisions to SOPs.

4.3 Where a new aeroplane is added to the fleet, an operator shall adopt standard way as older types to establish its SOP. Management personnel, Instructors/Check pilots shall co-ordinate using the best resources available, including the FCOM and Operations Bulletins to ensure that SOP developed or adapted for the new airplane is effective for safe operation of that aeroplane.

5. Contents of SOP

5.1 While developing a comprehensive SOP the following topics shall be included. Additionally, as and when applicable, new topics shall be included with the change of technologies and procedures. Continuous revisions shall be incorporated to improve upon the content on operational requirements. As a minimum, the following points shall be clearly and elaborately mentioned in the contents of an SOP:

5.1.1 **Authority of the Pilot in Command:**

- Deliberation about an authority to be exercised by the Pilot in Command (PIC) as being in command and charged with the safe conduct of a flight.

5.1.2 **Use of automation:**

- The operator's automation philosophy;
- Specific guidance in selection of appropriate levels of automation, Autopilot/Flight Director Mode control inputs;
- Flight Management Systems inputs.

5.1.3 **Reporting for flight duty:**

- Duty time criteria;
- Rest time criteria.

5.1.4 **Dispatch Briefing:**

- Flight plan (all criteria included);
- NOTAM (departure, en-route, destination and alternate);
- Weather (departure, en-route, destination, alternate);
- Aircraft status, bay information;
- Flight type (schedule, training, test special).

5.1.5 **Checklist philosophy :**

- Safety checks;
- Flow checks;
- Readout of checklist (Who calls for; who reads; who does);
- Checklist interruptions;
- Checklist couplings;
- Format and terminology;
- Type of checklist;
- Challenge-Do-Verify;
- Do-Verify;
- Checklist training.

5.1.6 **Walk-around :**

- Checklists;
- Safety check – power on.

5.1.7 **Flight deck :**

- Load information;
- Before start;
- After start;
- Before taxi;
- Before take-off;
- After take-off;
- Climb check;
- Cruise check;
- In flight procedure;
- Descent;
- Landing;
- After landing;
- Parking and securing;
- Normal/Abnormal/Emergency procedures.

5.1.8 **Communications :**

- Who handles radios
- Primary language used
- Company radio procedures
- Flight deck/cabin signals
- Cabin/flight deck signals

5.1.9 **Briefings :**

- CFIT risk consideration;
- Special airport qualifications consideration;
- Temperature corrections consideration;
- Before takeoff;
- Descent/approach/missed approach.

5.1.10 **Flight deck access policy :**

- On ground/in flight;
- Jump seat;
- Access signals, keys.

5.1.11 **Flight deck discipline :**

- Sterile cockpit;
- Maintaining outside vigilance;
- Transfer of control;
- Additional duties;
- Flight kits;
- Headsets/speakers;
- Boom mikes/handsets;
- Maps/approach charts;
- Meals.

5.1.12 **Altitude awareness :**

- Altimeter settings;
- Transition level;
- Callouts (verification of);
- Minimum safe altitudes (MSA).

5.1.13 **Report timing :**

- At operations control;
- On flight deck;

5.1.14 **Maintenance procedures :**

- Logbooks/previous reports;
- Notification to maintenance on reports;
- Minimum equipment list (MEL);
- Configuration Deviation List (CDL).

5.1.15 **Flight plans/dispatch procedures :**

- VFR/IFR;
- Icing considerations;
- Fuel loads;
- Weather package;
- Departure procedure climb gradient analysis.

5.1.16 **Boarding passengers/cargo :**

- Carry-on baggage;
- Exit row seating;
- Hazardous materials;
- Prisoners/escorted persons;
- Guns onboard;
- Count/load.

5.1.17 **Pushback :**

- Procedure;
- Checklist.

5.1.18 **Taxiing :**

- Single engine;
- All engines;
- On ice or snow;
- Prevention of runway incursion.

5.1.19 **Crew Resource Management (CRM) :**

- Crew briefings;
- Cabin Crew;
- Flight crew.

5.1.20 **Weight & balance/cargo loading:**

- Who is responsible for loading, and securing cargo;
- Who prepares the weight & balance data form;
- Who checks it.

5.1.21 **Flight deck/cabin crew communication :**

- Boarding;
- Ready to taxi;
- Cabin emergency;
- Prior to take-off/landing.

5.1.22 **Take-off :**

- Who conducts it;
- Briefing, IFR/VFR;
- Reduced power procedures;
- Tailwind, runway clutter;
- Intersections/land and hold short procedures (LAHSO);
- Noise abatement procedures;
- Special departure procedures.

5.1.23 **Callouts :**

- Takeoff run;
- Rejected Take off and associated emergency and action;
- Take off, cross wind technique;
- After V1 and departure;
- Clean up.

5.1.24 **Cimb :**

- Speeds;
- Configuration;
- Compliance with climb gradient required in departure procedure;
- Appropriate cold temperature corrections made.

5.1.25 **Cruise altitude selection, Cruise procedure**

5.1.26 **Position reports :**

- ATC;
- Company.

5.1.27 **In-flight emergency, Emergency descents**

5.1.28 **Descent :**

- Planning, top of descent point, Icing considerations;
- CFIT and obstacle clearance;
- Use of speed brakes;
- Use of flaps/gear/spoilers.

5.1.29 **Holding procedures**

5.1.30 **Procedures for diversion to alternate**

5.1.31 **Ground proximity warning system (GPWS)**

5.1.32 **TCAS**

5.1.33 **Wind shear :**

- Recognition;
- Avoidance of likely encounters;
- Recovery / escape maneuver.

5.1.34 **Approach :**

- Precision approaches;
- Stabilized approaches;
- Use of navigation aids;
- Flight Management System (FMS) Autopilot;
- Use of radio altimeter;
- Go-around: Plan to go around; changing plan to land when visual, if stabilized.

5.1.35 **Approach, including engine-out :**

- Profile;
- Flap/gear extension;
- Callouts;
- Procedures.

5.1.36 **Go-around/Missed approach :**

- Procedure;
- Callouts;
- Clean-up profile.

5.1.37 **Landing :**

- Configuration;
- Visual approach;
- Low visibility;
- Contaminated runway;
- Close-in turns;
- Crosswind;
- Rejected landing;
- Transfer of control after first officer landing (if applicable).

5.1.38 **After landing, Taxi in, Parking and Shut down :**

- Checklist procedure;
- Radio procedure;
- Icing consideration;
- NOTAM.

6.0 Responsibility of Operator :

6.1 Operators shall develop Standard Operating Procedures (SOP) for each category of aeroplane and for each phase of flight for use by the flight crewmembers. They shall obtain guidance from section 3.0, 4.0 and 5.0 of this ANO to prepare an effective SOP. Once an SOP has been made, the operator shall ensure its strict compliance. Operators shall also ensure that SOPs are updated from time to time according to the requirement as mentioned in section 3.

6.2 Operators shall ensure that SOPs are clear, comprehensive, and readily available in the Flight Operations Manual or as a separate manual for use by flight deck crewmembers.

This order shall come into force with immediate effect.